

Remarks

New Claims

Applicant has added new Claims 20 and 22 to claim methods of generating three dimensional objects that are transparent. Applicant has added new Claims 21 and 23 to claim generated three dimensional objects that possess more than one color. Support for new Claims 20-23 can be found in Paragraph 0025 (page 7, lines 13-27) and Paragraph 0027 (page 8, lines 9-18) of the instant specification.

Applicant has added new independent Claims 24 and 26 to claim a method for generating a three dimensional object in which the generated object is partly transparent. Dependent Claims 25 and 27 depend from independent Claims 24 and 26, respectively, and claim a method using a polymeric liquid in which the polymeric liquid cures to different degrees of transparency depending on exposure over time of the polymer liquid to a light source. Support for new Claims 24-27 can be found in Paragraph 0025 (page 7, lines 13-27) and Paragraph 0027 (page 8, lines 9-18) of the instant specification.

The § 102 (e) Rejections of Claims 1, 5-7, 9-12, 14, and 17-19

The Examiner has rejected Claims 1, 5-7, 9-12, 14, and 17-19 under 35 U.S.C. § 102 (e) as anticipated by United States Patent No. 6,175,422 to Penn, et al. ("the Penn patent" or "Penn"). Applicant has cancelled Claims 5-7, 10-12, 14, and 17-19 thereby rendering the rejection of those claims moot. Applicant has amended independent Claims 1 and 9 to incorporate the claim elements of claims 7 and 12, respectively. Applicant respectfully traverses the rejection of amended Claims 1 and 9 and requests reconsideration.

Applicant has amended independent Claim 1 to include the element of generating a three dimensional object from a mixture of polymeric liquids in which the different polymeric liquids are cured by exposure to different laser light wavelengths, intensities, or polarizations. In contrast, Penn only discloses the use of a single liquid material that hardens once it contacts a platform. (See Penn, col. 3, lines 5-12.) Further, in contrast to the disclosed method of Penn,

Applicant selectively cures individual polymeric liquids from a mixture of such liquids by taking advantage of each liquid's sensitivity to one or more particular light wavelengths, intensities and/or polarizations. In addition, Applicant courteously notes that the only mixture disclosed in Penn is that used in a method of laser sintering - the use of a heat laser to fuse selected areas of powdered material. Thus, Applicant's method claimed in amended Claim 1 differs from the use of a heat laser to sinter a powder mixture disclosed by Penn and instead generates a three dimensional object by curing individual polymeric liquids from a polymer liquid mixture which Penn does not claim or disclose. Therefore, for the reason that Penn fails to disclose both the liquid polymer curing method and the use of exposure to light of different properties claimed in amended independent Claim 1, Applicant respectfully traverses the rejection of that claim and requests reconsideration.

Similarly, amended independent Claim 9 incorporates the method step of generating a three dimensional object from a mixture of polymeric liquids in which the different polymeric liquids are cured by exposure to different laser light wavelengths, intensities, or polarizations. As noted above, the Penn patent does not disclose this claimed method of curing individual liquid polymers originally placed in a mixture and exposing the liquids to different laser light wavelengths, intensities and/or polarizations to cure the particular polymer liquid that is sensitive to the distinct laser light exposed to the mixture. Again, for the reason that Penn fails to disclose both the liquid polymer curing method and the use of exposure to light of different properties claimed in amended independent Claim 1, Applicant respectfully traverses the rejection of that claim and requests reconsideration.

The § 103 (a) Rejections of Claims 2-4, 8, 13, and 15-16

The Examiner rejected Claims 2-4, 8, 13, and 15-16 under 35 U.S.C. § 103 (a) as being unpatentable over United States Patent No. 6,175,422 to Penn, et al. ("the Penn patent" or "Penn") in view of United States Patent No. 6,259,104 to Baer ("the Baer patent" or "Baer"). Applicants have cancelled Claims 2-4 and 15-16 thereby rendering the rejection of those claims moot. Applicants have amended Claims 8 and 13 and respectfully traverse the rejection of those claims and request reconsideration.

Amended Claims 8 and 13 claim a method of generating a three dimensional object showing changes over time of a plurality of object planes within an object model. Applicants courteously note that Paragraph 0028 (page 8, lines 19-26) discloses a method of depicting the dynamic processes of the object model over time by detecting a plurality of object planes within the object model over time. Using this technique, a three dimensional object is generated depicting a time series of the different placements or locations of the object planes or region(s) within the object plane over time. In contrast, Baer discloses a method of extending the depth-of-focus of a layer of an image to create a sharper image. (See Baer, col. 8, lines 54-61.) Baer does not disclose the detection of changes in an object model over time and incorporating those changes into a single generated three dimensional object. It can be seen that not only do the methods claimed in Claims 8 and 13 differ from that of Baer, but the image generated using the Baer technique is not the equivalent of the three dimensional object generated by Applicant's claimed method. Applicants courteously note that Penn also fails to disclose the generation of a three dimensional object that depicts any changes within an object model over time. Therefore, because of the differences between the methods claimed in amended Claims 8 and 13 and the methods disclosed in the Penn and Baer patents, whether considered alone or in combination, Applicant respectfully traverses the rejections of those claims and requests reconsideration.

Conclusion

Applicant respectfully submits that all pending claims are now in condition for allowance, which action is courteously requested.

Respectfully submitted,



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Dated: March 22, 2004